

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Group Art Unit 3654

In re

Patent Application of

Michael E. Kasten, Jr., et al.

Application No. 10/502,067

Confirmation No. 8571

Filed: September 12, 2005

Examiner: Eric E. Pico

Atty. Docket No.: 018778-9026-01

“SAFETY BELT SYSTEM FOR WHEELCHAIR  
LIFTS”

**DECLARATION OF JAMES R. PIERROU PURSUANT TO 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, James R. Pierrou, declare as follows:

1. I currently reside at 9769 State Road 14, Winamac, Indiana, 46996, United States of America.
2. I am a Project Engineer with The Braun Corporation (“Braun”), which is the owner of the above-referenced patent application (“Application”). I am also a joint inventor of the subject matter disclosed in the Application.
3. I have an Associate Degree in Machine Design Technology from Tri-State University of Angola, Indiana.

4. I have approximately 16 years of experience in the design and development of wheelchair lifts for vehicles, and consider myself to be one of skill in the art in the field of vehicular access systems for handicapped persons, such as vehicular wheelchair lifts.

5. I have reviewed pending claims 1-24 of the Application as they currently stand based upon the Submission and Amendment Accompanying Request for Continued Examination filed July 3, 2007.

6. I have reviewed the pending Office action dated October 4, 2007, in which the Examiner has rejected claims 1-24 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,373,915 ("Tremblay") in view of U.S. Patent No. 4,785,906 ("Kang"), and, in various combinations, further in view of U.S. Patent Nos. 5,261,779 ("Goodrich"), 6,238,169 ("Dupuy"), and 6,077,025 ("Budd")

7. In the Office action dated October 4, 2007, the Examiner contends that Tremblay discloses an assembly capable of moving a passenger from a first surface to an adjacent second surface wherein the surfaces are located at different vertical levels, the assembly comprising: an electrical system shown in Fig. 5; a platform (referred to as lift surface 30) moveable to transport the passenger between the surfaces, the platform 30 having an inboard end, an outboard end, and two opposing sides, the inboard end closer to the first surface than the outboard end; an arm, referred to as armature 36, 37, coupled to the platform 30 and to the first surface, the arm 36, 37 moveable to transfer the platform 30 between the surfaces; a passenger support referred to as handrail 60, 62, located above the platform; a safety restraint system coupled to the passenger support 60, 62, the safety restraint system comprising: a belt, referred to as flexible strap 68, coupled to the passenger support 62 in a first location; a buckle 64 releasably engagable with the belt 68 and coupled to the passenger support 60 in a second location, the buckle 74 having a current path defined within the buckle 64 and coupled to the electrical system, shown in Figure 5, the current path having an open state and a closed state defined in part upon the releasable engagement between the buckle 64 and the belt 68, the current path closed upon engagement between the buckle 64 and the belt 68; and a motive source coupled to the electrical system and operable to move the arm, the motive source incapable of initiating movement of the arm when the current path is open and capable of initiating movement when the current path is closed.

8. As also stated in the October 4, 2007 Office action, the Examiner admits that Tremblay does not teach a motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated. The Examiner contends, however, that Kang teaches a motive source capable of continuing movement of a vehicle regardless of the current path state within a buckle 1 once movement is initiated, and references Column 2, lines 55-57 of Kang. The Examiner then concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to make the motive source disclosed by Tremblay capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated as taught by Kang to facilitate safety of the passenger lift.

9. I have reviewed the Tremblay and Kang references and disagree with the Examiner's contention that the invention claimed in claims 1-24 would have been obvious for the following reasons.

**I. THE TREMBLAY PATENT TEACHES AWAY FROM THE CLAIMED INVENTION**

10. Tremblay repeatedly explains that **all** lift functions are disabled when the restraining belt is not fastened. Tremblay also emphasizes that such a system "significantly increases" the safety of transported passengers, which is of primary importance in the passenger lift industry.

11. For example, Tremblay states:

- a. "The *safety of passengers* being transported on [my] lift is significantly increased by an electronic safety inter-lock included in the buckle. The electric safety interlock prevents *all* movement of the lift, until the restraining belt is fastened."  
Tremblay, col. 2, lines 47-51.
- b. "The circuit is designed so that the main control power of the lift passes through the switch. In this way, *all* lift functions are disabled when the restraint belt is not fastened."  
Tremblay, col. 5, lines 42-45.

- c. “[T]he circuit cannot be completed until the normally open switch 98 is also closed. Accordingly, the “up” circuit *only* can be completed and the platform raised when the buckle and tab are interlocked.”

Tremblay, col. 5, lines 65-68.

- d. “Again however, the circuit can *only* be completed and the platform lowered when the normally open switch 98 is closed, i.e. when the buckle and tab are interlocked.”

Tremblay, col. 6, lines 9-12.

- e. “A normally open electrical switch is located inside the buckle. The switch is operatively connected to the main control power circuit. When the switch is open, i.e. when the belt is not buckled, *all* lift functions are disabled. When the tab is inserted, the switch is closed and the lift functions actuated.”

Tremblay, col. 6, lines 32-36.

12. In my opinion, the teachings of Tremblay recited above would lead one of skill in the art away from the invention claimed in claims 1-24 of the present Application because contrary to the teachings of Tremblay, the claimed invention allows continued movement, actuation, or operation of the lift regardless of whether a safety belt is buckled or a corresponding current path is open. Specifically:

- a. One of skill in the art would be lead away from an assembly capable of moving a passenger from a first surface to an adjacent surface, the assembly including, among other things, a motive source coupled to an electrical system and operable to move an arm, the motive source incapable of initiating movement of the arm when a current path defined within a buckle is open and capable of initiating movement when the current path is closed, the motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated as claimed in claim 1.
- b. One of skill in the art would be lead away from a safety restraint system usable with an electrically operated lift system, the safety restraint system including, among other things, a buckle releasably engagable with a belt and having a current path defined within the buckle and coupled to the electrically operated lift system, the electrically operated lift system incapable of initiating movement when the current path is open and capable of initiating movement when the current path is closed, the electrically operated lift system capable of continuing

movement regardless of the current path state within the buckle once movement is initiated as claimed in claim 11.

- c. One of skill in the art would be lead away from a lift mountable onto a vehicle for transporting a passenger between the floor of the vehicle and the street, the lift including, among other things, a user manipulable switch coupled to the electrically operated drive system, the switch having an open condition and a closed condition, the drive system incapable of initiating actuation when the switch is in the closed condition and a buckle and belt are in a disengaged state, the drive system capable of initiating actuation when the switch is in the closed condition and the buckle and belt are in an engaged state, and the drive system capable of continuing actuation once begun when the switch is in the closed condition and the buckle and belt are in the disengaged state as claimed in claim 15.
- d. One of skill in the art would be lead away from a method of moving a passenger between the ground and a vehicle, the method including, among other things, actuating a switch to operate an electrical motive source coupled to a platform, the motive source inoperable to move the platform from an at rest position without a seatbelt being fastened and operable to move the platform from an at rest position with the seatbelt fastened, the motive source capable of being continually operable as the platform is moving regardless of the seatbelt being fastened as claimed in claim 24.

**II. ONE OF ORDINARY SKILL IN THE ART OF PASSENGER LIFTS WOULD NOT LOOK TO COMBINE THE TEACHINGS OF KANG WITH TREMBLAY**

13. The Examiner cites Kang as teaching a motive source capable of continuing movement of a vehicle regardless of the current path state within a buckle once movement is initiated. The relevant sentence of Kang states “[a]fter the engine is once cranked, it will continue to run, and said seat belt 15 can be unbuckled, allowing the vehicle to start, be driven and stopped.” (Kang, col. 2, lines 55-57).

14. Kang teaches a seat belt buckle for a **vehicle**. Although Kang is essentially silent on the reasons why vehicle operation is allowed to continue even if the seat belt comes

unbuckled, the importance of allowing such continued operation goes without saying. Although the seatbelt certainly enhances safety while it is buckled, it would be significantly more unsafe for the car to suddenly cease operation if the belt came unbuckled during operation. In this regard, Tremblay and Kang teach different things. Tremblay teaches that for a *passenger lift*, safety is enhanced by preventing all movement of the lift if the safety belt comes unbuckled, whereas Kang and common sense suggest that for a *vehicle* it is more important to allow continued operation if the safety belt comes unbuckled.

15. In view of the divergent teachings of Tremblay and Kang, it is my opinion that one of skill in the art of *passenger lifts* would follow the teachings of Tremblay because Tremblay specifically addresses passenger lifts. In fact, the teachings of Tremblay would likely lead one of skill in the art to completely dismiss the teachings of Kang as being inapplicable to the design of a restraint system for a passenger lift.

### **III. THE OTHER INVENTORS AND I DISCOVERED A PREVIOUSLY UNRECOGNIZED PROBLEM WITH OTHER PASSENGER LIFTS, AND SOLVED THAT PROBLEM BY DEVELOPING THE CLAIMED INVENTION.**

16. As an initial matter, I note that Tremblay is assigned to Ricon Corporation (“Ricon”). Ricon competes with Braun, my employer, in the wheelchair lift industry. Through our employment with Braun, the other inventors and I were familiar with Ricon wheelchair lifts, including lifts that operated in the manner taught by Tremblay, prior to developing the safety belt system for a wheelchair lift that is the subject of the present Application.

17. There was a previously unrecognized problem with passenger lifts like Tremblay’s that halt all movement of the lift when the safety belt comes unbuckled. Specifically, if the belt comes unbuckled during operation, or worse, if there is a failure within the corresponding electrical circuit such that the system thinks the belt has come unbuckled during operation, all further operation of the lift is prevented, thereby leaving the lift passenger dangerously stuck in a partially-elevated position and unable to safely reach the vehicle floor or the ground.

18. With regard to a failure of the electrical circuit associated with the safety belt, we recognized that repairing the faulty electrical circuit would likely require replacement parts and/or the services of a skilled technician, neither of which are likely to be readily available when the failure occurs and the lift passenger is stuck in a partially-elevated position. In these circumstances, the lift passenger, who is very likely to be wheelchair-bound, will have to be assisted or somehow removed from the partially-elevated lift platform, presenting a significant potential for a fall or other accident. We further recognized that in the event of a failure of the electrical circuit, there is substantially no additional danger posed by continuing operation of the lift because the safety belt has not, in fact, come unbuckled. Should the electrical failure occur during lift operation, the claimed system is configured so that the lift operator will in all likelihood be completely unaware of the electrical failure, and will simply continue operation of the lift to either the ground level or the vehicle floor level. The electrical circuit failure will then become apparent to the operator when the claimed system prevents operation of the lift the next time the operator attempts to initiate lift movement. For these and other reasons, we developed the lift assembly and safety restraint system of claims 1 and 11, which allow continued movement regardless of the state of a current path associated with the safety belt. Specifically, we developed:

- a. An assembly capable of moving a passenger from a first surface to an adjacent surface, the assembly including, among other things, a motive source coupled to an electrical system and operable to move an arm, the motive source incapable of initiating movement of the arm when a current path defined within a buckle is open and capable of initiating movement when the current path is closed, the motive source capable of continuing movement of the arm regardless of the current path state within the buckle once movement is initiated, as claimed in claim 1.
- b. A safety restraint system usable with an electrically operated lift system, the safety restraint system including, among other things, a buckle releasably engagable with a belt and having a current path defined within the buckle and coupled to the electrically operated lift system, the electrically operated lift system incapable of initiating movement when the current path is open and capable of initiating movement when the current path is closed, the electrically

operated lift system capable of continuing movement regardless of the current path state within the buckle once movement is initiated, as claimed in claim 11.

19. With regard to the belt coming unbuckled during operation, we recognized that in many instances, the time and effort required to rebuckle the safety belt while the lift is in a partially-elevated position, particularly by an individual of limited mobility, may present a more unsafe condition than continuing operation of the lift to either the vehicle floor or the ground with the belt unbuckled. For these and other reasons, we developed the lift for transporting passengers and the method of moving passengers of claims 15 and 24, which allow movement of the lift to continue once initiated even if the safety belt comes unbuckled. Specifically, we developed:

- a. A lift mountable onto a vehicle for transporting a passenger between the floor of the vehicle and the street, the lift including, among other things, a user manipulable switch coupled to the electrically operated drive system, the switch having an open condition and a closed condition, the drive system incapable of initiating actuation when the switch is in the closed condition and a buckle and belt are in a disengaged state, the drive system capable of initiating actuation when the switch is in the closed condition and the buckle and belt are in an engaged state, and the drive system capable of continuing actuation once begun when the switch is in the closed condition and the buckle and belt are in the disengaged state as claimed in claim 15.
- b. A method of moving a passenger between the ground and a vehicle, the method including, among other things, actuating a switch to operate an electrical motive source coupled to a platform, the motive source inoperable to move the platform from an at rest position without a seatbelt being fastened and operable to move the platform from an at rest position with the seatbelt fastened, the motive source capable of being continually operable as the platform is moving regardless of the seatbelt being fastened as claimed in claim 24.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like are



punishable by fine and imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

12-5-07

Date

James R. Pierrou

James R. Pierrou